

ORCHID STUDIES, XII

BY

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THE PRESENT number of the Orchid Studies is a collection of short generic observations which have been made during the past two years. Four subtitles make up the number, as follows: 1. *Restrepia Humboldt, Bonpland & Kunth*, a consideration of generic validity. 2. *Nageliella*, a new name for the orchidaceous genus *Hartwegia Lindley*. 3. The orchid genera *Coelia Lindley* and *Bothriochilus Lemaire*. 4. A new genus of the Orchidaceae from Central America.

1. *RESTREPIA Humboldt, Bonpland & Kunth*, A CONSIDERATION OF GENERIC VALIDITY

The genus *Restrepia*, a member of that complex group of genera, the *Pleurothallideae*, recently came under observation when an attempt was made to write a generic description of it that would exclude all known variations of *Pleurothallis*.

Restrepia was first described by Humboldt, Bonpland and Kunth to contain an Andean plant for which they gave an admirable illustration. From that time (1818) to the present the genus ordinarily has been accepted without question; except by that master of generic definition George Bentham who apparently had some misgivings about the validity of the genus (cf. *Journ. Linn. Soc. Bot.* 22 (1881) 292), although he retained it in the *Genera Plantarum*.

Species have been added to *Restrepia* by nearly all orchidologists who have worked with American Orchids: Lindley, Reichenbach filius, Rolfe, Schlechter and Ames & Schweinfurth.

The genus *Restrepia*, so far as I am able to determine, has but one character which would entitle it to generic rank and that is the fact that all *Restrepias* have four pollinia instead of two. However, this character may be used only if all of the species of *Pleurothallis* having four pollinia are removed from that genus. Schlechter has proposed the genus *Barbosella* for some of the species having four pollinia. This proposition, however, does not settle the matter, because there are other species of *Pleurothallis* which are known to have four pollinia and yet cannot be placed in *Restrepia* or *Barbosella* as these genera are currently restricted. An example is the anomalous *Pleurothallis ophiocephala* Lindl. If we allow it to remain in *Pleurothallis*, where it seems to belong, then we must admit the genus *Pleurothallis* as having either two or four pollinia. If it is excluded from *Pleurothallis*, it would seem to constitute a genus of its own. To admit *Pleurothallis ophiocephala* to generic rank would obligate one to admit other such variations to the same rank and hence cause unwarranted generic segregation among the *Pleurothallideae*.

Barbosella Schlechter, as delimited by him, is a closely allied group of species having four pollinia. The group is very closely allied to the *Restrepias* of traditional usage, from which it differs only in the fact that the dorsal sepal and the petals do not have clavellate apices. Ames and Schweinfurth have taken most of the valid species of *Barbosella*, which were not originally described as *Pleurothallis*, and have transferred them to that genus. In making these transfers they did not mention that *Barbosella* is more closely allied to *Restrepia*, which they maintained, than it is to *Pleurothallis*. While I agree that *Barbosella* should be placed in *Pleurothallis*, I would not agree to this reduction if *Restrepia* were to be retained. By permitting the species described as *Barbosella* to re-

main in *Pleurothallis*, we must characterize *Pleurothallis* as having either two or four pollinia.

In *Restrepia*, then, we find that the main generic character (the four pollinia) used to segregate it, is duplicated in *Pleurothallis*.

One other character for segregation of *Restrepia* remains, the curious clavellate or antenna-like apices of the petals and sometimes of the dorsal sepal. This character is quite clear in some species, while in others it is all too vague. Even were this character always observable, and even if hints of it were not present in those species which were segregated as *Barbosella*, I should not be inclined to consider of generic rank plants exhibiting this character when not accompanied by other significant characters.

It would doubtless be of value to retain the name *Restrepia* for a section of *Pleurothallis* for those plants which exhibit clavellate sepals and petals as this character usually gives a rather distinctive appearance to the plants.

PLEUROTHALLIS *R. Brown* section **Restrepia**
(*HBK.*) *L. O. Williams comb. nov.*

Restrepia Humboldt, Bonpland & Kunth Nov. Gen. & Sp. 1 (1816) 366, t. 94.

In Mexico and Central America,—in addition to *Pleurothallis muscifera* Lindl. (*Restrepia muscifera* (Lindl.) Reichb. f.), *Pleurothallis pilosissima* Schltr. (*Restrepia pilosissima* Ames & Schweinf.) and perhaps one or two others,—there are the following species, formerly referred to *Restrepia*, which should be transferred to this section of *Pleurothallis*.

Pleurothallis Amesiana *L. O. Williams nom. nov.*

Restrepia Lankesteri Ames & Schweinfurth in Sched. Orch. 10 (1930) 20, non *Pleurothallis Lankesteri* Rolfe.

Pleurothallis Dayana (*Reichb.f.*) *L. O. Williams*
comb. nov.

Restrepia Dayana Reichenbach filius in Gard. Chron.
n.s. 4 (1875) 257.

Pleurothallis filamentosa (*A. & S.*) *L. O. Williams*
comb. nov.

Restrepia filamentosa Ames & Schweinfurth in Sched.
Orch. 8 (1925) 19, fig. 3.

Pleurothallis subserrata (*Schltr.*) *L. O. Williams*
comb. nov.

Restrepia subserrata Schlechter in Fedde Repert.
Beihefte 19 (1923) 291.

Pleurothallis xanthophthalma (*Reichb.f.*) *L. O. Williams*
comb. nov.

Restrepia Lansbergii "Reichb.f." sensu Hooker in
Bot. Mag. 87 (1861) t. 5257.

Restrepia xanthophthalma Reichenbach filius in
Hamb. Gartenzeit. 21 (1865) 300.

2. NAGELIELLA, A NEW NAME FOR THE ORCHIDA-
CEOUS GENUS *HARTWEGIA* *Lindley*.

NAGELIELLA *L. O. Williams* *nom. nov.*

Hartwegia Lindley in Bot. Reg. 23 (1837) sub t.
1970, non Nees (1831).

Nageliella purpurea (*Lindl.*) *L. O. Williams* *comb.*
nov.

Hartwegia purpurea Lindley in Bot. Reg. 23 (1837)
sub t. 1970—Reichenbach filius in Saunders Refug.
Bot. 2 (1870) t. 94.

Lindley named this monotypic orchid genus for The-
odore Hartweg who, somewhat more than a century ago,

was one of the most enthusiastic collectors of Mexican orchids. Due to the fact that Lindley's name is a homonym of the earlier *Hartwegia* Nees, it is necessary to give the genus a new name.

To carry out Lindley's idea of honoring a collector especially interested in Mexican Orchidaceae, I take this opportunity of renaming the genus for Mr. Otto Nagel. Mr. Nagel, collecting in Mexico just one century after Hartweg, has probably collected more species and specimens of Mexican orchids and travelled more widely over Mexico than any other collector who has ever been in that delightful country.

Nageliella is a monotypic genus. Two other species which were described under *Hartwegia* Lindl. appear to belong elsewhere.

Dr. R. Mansfeld (Notizbl. Bot. Gart. Berlin 13 (1938) 667) has indicated that he thought that *Hartwegia* should be referred to the subtribe *Laeliinae* (*Laelieae*) rather than to the *Ponerinae* (*Ponereae*). The two subtribes stand very close to one another, and it is sometimes difficult to distinguish them; but it seems best to retain *Nageliella* in the *Ponereae*, since I find a distinct column-foot in *Nageliella* which is never found in the genera of the *Laelieae*.

3. THE ORCHID GENERA *COELIA* Lindley AND *BOTHRIOCHILUS* Lemaire

In 1830, Lindley described the genus *Coelia* in his *Genera and Species of Orchidaceous Plants*, p. 36, basing it on a drawing made by Bauer. When he received material for study, the characters of the genus were emended (Bot. Reg. 28 (1842) t. 26).

Four additional species have been referred to the genus since its publication. All four of these species are at variance with the original species in a number of char-

acters. The fact that there are several differences has been generally overlooked. However, Lemaire erected the genus *Bothriochilus* to contain one of the species. Hooker noted the differences in some of the species (Bot. Mag. 107 (1882) t. 6628) and suggested that *Coelia* might be divided into two sections, commenting at the same time on Lemaire's genus in the following words: "Bothriochilus is proposed by Lemaire, but it has no characters to stand upon, and indeed it is very probable that plants with intermediate characters will be found uniting the group." Hooker's division of the group was entirely superficial and overlooked the more stable characters which are present.

Bentham and Hooker in the *Genera Plantarum* so described *Coelia* that the characters of no plant which I know will fit it. Part of the characters attributed to it were derived from *Coelia triptera* and part of them from *C. macrostachya* and *C. bella*, but in such a way as to make them inapplicable to the component species of the genus. Two examples of this will suffice. The lateral sepals are described, in part, as follows: "... basi cum pede columnae in mentum breve v. elongatum connata.", which does not apply at all to *Coelia triptera*, the type species. The column is described, in part, as follows: "Columna brevis, latiuscula", which applies to *Coelia triptera* but to no other species.

Attention should be called to the fact that the resemblance of the species which have been referred to *Coelia* is very close. There seem to be no vegetative characters which would assist in separating them generically.

A tabulation of characters which are available for generic segregation may be useful and is given here. I believe that these characters are sufficient to necessitate the recognition of two genera.

COELIA

(*C. triptera*)

Column-foot lacking or nearly so.

Column very short and broad.

Lateral sepals not forming a mentum.

Lateral sepals not adnate to the column nor to the obscure column foot.

Lip not deflexed, saccate nor otherwise complicated at the apex of the claw.

BOTHRIOCHILUS

(*B. macrostachyus*, *B. bellus* and *B. guatemalensis*)

Column-foot subequal to the column in length.

Column long and slender.

Lateral sepals forming a distinct mentum.

Lateral sepals adnate to the column-foot.

Lip either sharply deflexed or saccate (one species with a short didymous sac) at the apex of the claw.

These considerations seem to indicate that two genera are present. For those species which are generically distinct from the type species of *Coelia*, I reinstate the genus *Bothriochilus* Lemaire which contains the following species.

1. ***Bothriochilus bellus*** *Lemaire* in *Illustr. Hort.* 3 (1856) *Misc.* p. 30.

Bifrenaria bella *Lemaire* in *Jard. Fleuriste* 3 (1853) t. 325.

Coelia bella *Reichenbach filius* in *Walpers Ann.* 6 (1861) 218—*Hooker* in *Bot. Mag.* 108 (1882) t. 6628.

Coelia picta *Bateman ex Hooker* in *Bot. Mag.* 108 (1882) sub t. 6628, *nomen*.

The largest-flowered species of the genus. Known from Guatemala and Honduras.

2. ***Bothriochilus guatemalensis*** (*Reichb.f.*) *L. O. Williams comb. nov.*

Coelia guatemalensis *Reichenbach filius* in *Walpers Ann.* 6 (1861) 219.

A rare species which is recorded only from Guatemala. The type is said, by Reichenbach, to be in Lindley's herbarium.

3. **Bothriochilus macrostachyus** (*Lindl.*) *L. O. Williams comb. nov.*

Coelia macrostachya Lindley in Bentham Pl. Hartw. (1842) 92—Hooker in Bot. Mag. 79 (1853) t. 4712.

Coelia macrostachya Lindl. var. *genuina* Reichenbach filius Beitr. Orch. Centr.-Am. (1866) 41.

Coelia macrostachya Lindl. var. *integrilabia* Reichenbach filius Beitr. Orch. Centr.-Am. (1866) 41.

Bothriochilus macrostachyus is probably the commonest species of the genus. It is known from Mexico, Guatemala, Honduras and Panama.

DUBIOUS SPECIES

Coelia densiflora *Rolfe* in Kew. Bull. 1906: 375.

There is no material of this species (which obviously belongs to *Bothriochilus*) available for study in the Ames Herbarium. It is possible that it may be a synonym of *Bothriochilus guatemalensis*.

4. A NEW GENUS OF THE ORCHIDACEAE FROM
CENTRAL AMERICA.

EPIDANTHUS *L. O. Williams gen. nov.*

(Tribus Kerosphaerae, Serie Acranthae, Subtribus (?) Polystachyae). Sepala similia, libera, lanceolata, reflexa vel patula. Petala basi callo vel junctioe petali et columnae callo ornata. Labellum integrum vel trilobum, basi columnae adnata. Columna brevis, teres, labello vel labelli callo adnata. Rostellum breve, emarginatum; clinandrium alatum. Anthera terminalis, operculata, incumbens, biloculata. Pollinia duo, subglobosa, cerea, stipitata.

Sepals similar, free, lanceolate, reflexed or spreading. Petals with a callus at the base or at the junction of the petal and column. Lip simple or three-lobed, adnate at the base to the column, sometimes surrounding the column. Column short, terete, adnate to the lip or callus of the lip for its entire length; rostellum short, emarginate; clinandrium evenly winged. Anther terminal, operculate, incumbent, two-celled; pollinia two, subglobose, waxy; stipe to each pollinium oblong, free from the other stipe almost to the oblong-ovate gland.—Small simple or branched epiphytic herbs with slender, leafy, repent or caespitose stems, lacking pseudobulbs. Leaves distichous, jointed at the base, plane or terete, linear or subfiliform; leaf-sheaths persistent on the stems. Inflorescence a terminal, distichous, fractiflex raceme. Flowers small.—Characteristic species, *Epidanthus paranthicus* (Reichb.f.) L.O. Williams.

If we follow Schlechter's system of classification (Notizbl. Bot. Gart. Berlin 9 (1926) 563–591), *Epidanthus* apparently should be placed as the most advanced member of the tribe *Kerosphaereae*, series *Acranthae*. Whether it should be placed in the subtribe *Polystachyae*, a group of genera predominantly of Asia and Africa but occurring in the Americas, or whether it should be placed in a new subtribe of its own, I am not sure.

There seem to be no close generic allies. Its relationship to *Epidendrum*, where all of the species have been previously placed, is no more than a superficial resemblance.

The name *Epidanthus* is derived by taking the first part of the name *Epidendrum* and adding to it the word *ἄνθος*, a flower, in allusion to the *Epidendrum*-like flowers and the fact that all of the species previously have been placed in the genus *Epidendrum*.

Lip 3-lobed or 3-lobulate.

Petals lanceolate-oblong to ovate-oblong; lateral lobes of the lip transversely and obliquely oval or triangular-oval; base of the lip cordate 1. *E. paranthicus*

Petals narrowly linear or elliptic-linear; lateral lobes of the lip semiorbicular; base of the lip rounded or cuneate 3. *E. muscicola*

Lip simple, obscurely lobulate or bilobed.

Base of the petals auriculate; lip narrowly lanceolate-triangular, acuminate 2. *E. goniorhachis*

Base of the petals not auriculate; lip not narrowly lanceolate-triangular, commonly abruptly acuminate to rostrate 1. *E. paranthicus*

1. ***Epidanthus paranthicus* (Reichb.f.) L. O. Williams comb. nov.**

Epidendrum paranthicum Reichenbach filius in Bot. Zeit. 10 (1852) 732—Ames, Hubbard & Schweinfurth Genus Epidendrum in U.S. & Middle America (1936) 145.

Epidendrum Sancti Ramoni Kränzlin in Vierteljahrsschr. Naturforsch. Gesell. Zürich 74 (1929) 137.

Range: Mexico, Guatemala, Honduras, Costa Rica and Panama.

MEXICO: Nagel & Monzón 6736, 7146.

GUATEMALA: Johnson 557; Liebmann s.n.; Tuerckheim 927, 1915.

HONDURAS: Edwards 165.

COSTA RICA: Brade 1312; Brenes 534, 542; Lankester 383, 386; Pittier 2008; Standley 33916, 38560, 39484, 39503, 39570b, 39591; Standley & Torres 47748, 47761, 47986; Standley & Valerio 48348, 50364, 50791, 50824, 52377; Stork 2209; Tonduz 17617; Valerio 52.

PANAMA: Davidson 121.

2. ***Epidanthus goniorhachis* (Schltr.) L. O. Williams comb. nov.**

Epidendrum goniorhachis Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2 (1918) 462—Ames, Hubbard & Schweinfurth Genus Epidendrum in U.S. & Middle America (1936) 104.

Epidendrum fractiflexum Lehmann & Kränzlin in Engl. Bot. Jahrb. 26 (1899) 468, non Rodrigues (1881).

Range: Costa Rica.

COSTA RICA: Brenes 84; Lankester 1019; Lehmann 1077; Smith H584; Standley 51299, 51323.

3. ***Epidanthus muscicola*** (*Schltr.*) *L. O. Williams* comb. nov.

Epidendrum muscicola Schlechter in Fedde Repert. Beihefte 19 (1923) 214, (as “muscicolum”)—Ames, Hubbard & Schweinfurth Genus *Epidendrum* in U.S. & Middle America (1936) 126.

Epidendrum linifolium Ames in Sched. Orch. 7 (1924) 7, t. 20.

Range: Costa Rica.

COSTA RICA: Brenes 44, 16201; Jimenez 2015; Skutch 3377; Smith H1137, H1314; Stork 417, 1606, 3290; Standley 32967, 38255, 38317, 38326.